Should I Be Scared of Artificial Intelligence?

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Opening Remarks

Imagine you are the boss of a new company in a time which has seen the immense maturity of AI. You plane to employ a fully automated service architecture and model for your business that not a single human labor will be employed. You chose this model because

1) It is possible to automate everything you need to run your business

2) You do not trust humans because humans are prone to emotion, fatigue and sickness

3) It is cost effective

4) Highly productive.

Now imagine if this line of thought and belief in automation becomes the trend then we will be seeing an entire automated job industry which is owned by only investors, owners and managers i.e. the top brass of any business. How will it affect human employment? How will there be widespread money circulation in a vast unemployed human existence? Possibly this circulation will be even more entrenched and limited among the rich even more than it is

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currently now. This is a very likely reality because "ultra-intensive computational power and lower dimensions and affordable cost, have enabled researchers to implement artificial intelligence algorithms on various applications".

What is Artificial Intelligence?

AI is a machine intelligence whose perfection largely depends on its ability and capacity to detect, identify, process and remember increasing number of relevant variables from an environment. This is part of the statistical and machine learning that AI uses to mimic human intelligence. Examples of their usages are in voice recognition, language processing, computer vision and neural networks for example. These are the building blocks of the robotic mind. A machine can be taught exactly how to behave, or it can be taught to decide its own behavior depending on the objective given.

How Does AI Function?

The general functionalities of an AI system can be summarized in the following ways:

1. Probabilistic learning: AI is designed on a model of computation and then data is fed into it. The efficacy and rationalizability of AI depend on its quality and logic of data. Collective data-based decision is always probabilistic.

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2. Model based learning: AI is designed with a model which takes data as input and processes it to make decisions. These models implement algorithms based on mathematics and statistics or state computations such as automata, trees etc.

3. Critical response to small changes: An AI system may behave completely randomly even if there is a very slight variation is mathematical and statistical approximation. For example, image or speech recognition AI systems can be fooled by small alteration in the images or speeches.

Benefits

AI makes people's lives easier because AI can automate work by its massive data crunching power which even surpasses human mental capacity. AI does not have fatigue, boredom or human emotions to deal with when thinking so this makes them very efficient and effective. AI can analyze massive data which is impossible by humans and “machines can be immensely more effective in this task [than humans] due to their fast response, multi-dimensional data structures, parallel processing, huge data storage and lack of fatigue”.

AI use in medical industry is in automated diagnostics, clinical decision making, automated surgery and prognostication. AI can be also used in power grids and electrical industries to predict various power related issues such as power outage depending on past hurricane data, fault detection and

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wind power forecast for power generation depending on wind speed, among other things. AI can be used in waste industry to predict models and techniques of the most efficient waste reduction. AI robots can replace waste disposal construction workers who often in many countries work in hazardous conditions with low pay and low perks. The fear of a super intelligent machine can be rejected by the following propositions:

1. AI works on limited models and thus cannot mimic general human cognition and intelligence.

2. AI abilities and capabilities are as much as the developer sets it to be. Computationally and algorithmically there are limitations to software design and development.

However, these can change if AI is implemented through quantum computers. Quantum computers may truly help create the terminator that we all fear!

Dangers

Will AI impede and downgrade medical professional's creativity and thinking ability by reducing brain usage caused by depending overtly on AI systems? So "Increasing use of automation may exacerbate de-skilling of human physicians due to over-reliance, poor understanding, overconfidence, and lack of necessary vigilance of an automated clinical workflow". Will there be any use in training

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doctors when we will be able to only train machines which can be operated by the one having the most basic medical education or even none at all? Will we have our own personal machines as our doctor or surgeon which will diagnose and/or perform surgery by push of buttons or initializing up a routine as a bot? What happens in case machine malfunctions during a lifesaving surgery and we do not have qualified doctors as they have been replaced by AI? Such example can be extended to many of the vital occupations. This begs the question will AI mistakes surpass professional human mistakes?

Automation thus is posing a great risk to educated professionals and their job markets. People may say technologies have always created new jobs by taking old jobs, however AI is a unique kind of technology as AI seeks to mimic human intelligence thereby really threatening worth of human intelligence. While historically technologies only replaced a very limited aspect of human action AI seeks to replace human mind itself.

Can AI understand implications or hidden assumptions to perfect decision making? Human beings often do understand intents, emotions and implied assumptions. These are some of the great essentials in human relationship and in many of the vital human activities such as in a court of law or during an interview for example.

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The AI will create global technological inequality enhancing the already powerful nations more powerful and making the less developed nations more exploitable. Also, the military industrial complex will become even more bold and audacious because AI warfare will save national lives so there will be no more public discontent against declaration of wars. Tyrannical nations will become more oppressive. Imagine the dominion of Skynet except being controlled by the elites. This militarization of AI poses a great threat against humanity. Militarizing AI objectives by training machines to do harm and/or preserve a certain political and strategic policy seems like a sci-fi movie becoming reality.

Faulty, inadequately trained, poorly understood algorithms, data poisoning and incorrect statistical approximation can produce erroneous results, which may have wide-scale impact on people's lives. Take the example of Tesla self-driving cars which have failed and caused fatalities. For example, an AI system was fooled into deciding that "stop sign" had a “speed limit of 45". This could be disastrous for self-driving cars.

Also, such faults may have a national and/or global impact if the military industrial complex automates a distributed armed surveillance system. Depending on the design of such a system, which may

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self-learn, identify and execute its own objectives and depending on the severity and scope of arming may determine the danger level to human society.

The danger of AI rises also from increasing development of quantum computing, mass and distributed application of digital components and extensive digitization process made possible by affordable and cost-effective technologies partly due to cheap labor in some of the cruelest nations and regions on earth. These increase the use and hence the probability of AI harms. Lastly, AI may bring about a revolution in perfecting human apathy. We are today already socially and emotionally isolated by being glued to digital devices, sometimes totally unaware of human diaspora around the world. With the advent of emotionally acting robots, human beings will become more distant and this will increase human apathy across societies and regions causing a demise and slow down in human centric policies.

Some Solutions to Some AI Created Problems

We may be able to deal with some of the problems created due to automation:

1. Create a vibrant and rigorous welfare system for the unemployed depending on their education and skill levels.

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2. Tax the robots and robot employed businesses in a more aggressive manner.

3. Hold the owners, managers and developers of AI responsible always giving benefit of the doubt to the people.

4. Always prepare a kill switch to shut down malfunctioning AI or reboot such with a clean state.

5. Log AI computations and decisions to trace and understand any foreseeable vulnerabilities and threats.

6. Globalize AI technologies by banning all forms of AI patenting.

7. Ban aggressive AI use in military and warfare.

8. Implement an international monitoring system of AI accountability.

Conclusion

AI will affect the job industry tremendously because unlike previous technologies of human history AI is trying to replicate human intelligence itself. AI's massive data processing power without the biological fatigue, emotion and slowdown like humans, makes it even more productive and efficient than human beings in decision making and predictions. In other words, human worth will become disposable. AI may malfunction, may be hacked into resulting in a totally unpredictable new behavior. AI faults whether created deliberately, by malfunction or poor design of

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models may have wide ranging impacts in time critical environments. Such may have huge consequences in the healthcare industry, military industrial complex and warfare. AI will enhance global human apathy. AI technological inequality will create more gap between the rich and the poor and make the weaker nations more exploitable. AI has today already become a tool of political and cultural repression as well. These harms may be remedied by some of the policies mentioned in this paper.

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